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ABSTRACT

This paper outlines a classroom technique that conveys to students some of the complexities of naturalistic and systematic observation. Most research methods textbooks devote only a single chapter to all of the descriptive techniques of research. This activity involves students in the observation and recording of "fidgets" during a five-minute period. Little discussion or explanation precedes the experiment. The class discussion that follows usually identifies typical problems encountered by naturalistic researchers including: (1) lack of clarity of definition of observed event; (2) an operational definition may constrain observations; (3) training observers for consistency for inter-rater reliability; (4) videotaping the scene to allow observers to discuss criteria of observation procedure; (5) method of recording data might differ across observers; (6) different vantage points of observers mean observations of the same event are different; and (7) participants know they are being observed which may influence the outcome of the study. (EH)

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Counting Fidgets: Teaching the Complexity of Naturalistic Observation

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The research tradition in psychology has typically involved controlled laboratory settings. Nonetheless, naturalistic and systematic observation can play a significant role in the study of social behaviors. Unfortunately, most research methods textbooks devote only a single chapter to all of the descriptive techniques. Books with the phrase "experimental psychology" in their titles may not consider descriptive techniques beyond a simple description. The present activity outlines a simple classroom technique that effectively conveys to students some of the complexities of naturalistic and systematic observation.

If research methods textbooks are any indication, psychology students spend much more time learning about laboratory research with controlled conditions than they do learning about naturalistic observation. This is not surprising, given the traditions of psychology. At the same time, naturalistic observation can pay a significant role in the study of social behaviors.

Typically, undergraduate textbooks devote perhaps a chapter to descriptive research. For example, Goodwin (1995) has one chapter on descriptive research and Levin and Hinrichs (1995) do not discuss descriptive methods specifically in their experimental focus.

As such, students may not appreciate the complexities of naturalistic observation or systematic observation. Naturalistic observation poses difficulties because it may involve the cataloging of many varied behaviors. The demonstration presented here involves systematic observation that, because of its greater focus on specific behaviors to be recorded, poses less difficulty with inter-rater reliability than broader naturalistic observation; nonetheless, it is still fraught with problems.

This activity is designed to illustrate to students how they might approach naturalistic and systematic observations and what difficulties must be overcome.

THE ACTIVITY

Preparation. I solicit two student volunteers to participate in an as-yet undefined task. They will need either digital watches or watches with second hands or to borrow one for the demonstration. It is helpful to know the volunteers because you can then select people who are likely to respond quite differently in the task; such variation enhances the pedagogical effectiveness of the activity. Selection of one student who is very energetic and another student who is calmer often leads to very different reports from the observers, which is the point of the exercise.

After selecting the students who will serve as observers, I take them into the hallway briefly so I can explain their roles.

Even though the directions are simple, the observers may have questions. I try to avoid answering questions about definitions of fidgets because that is part of the later discussion. In fact, I have found that it is best not to let the observers ask any questions at all.

The Demonstration. The students in the class still do not know what is going on. They follow the directions as indicated in Table 2 below. The observation period consists of five one-minute periods.

RESULTS

Naturally, each class is different, so demonstrations vary from one time to the next. In at least a dozen instances, I have never failed to achieve notable differences between observers' counts. Table 3 presents some typical results. In spite of Graham's (1973), assertion that "typical results are shown" means "the best results are shown" (p. 120), the data below are fairly standard in this activity.

If the paired observations are correlated for all observations, not only is the coefficient nonsignificant, it is even negative, $r(16) = -.16$, $p > .10$. In general, the observers are not recording similar events.

The least impressive result, from one especially lethargic class, involved one observer's recording only 11 fidgets as the second tallied 19. The numbers are not high, but the observer with the higher tally still counted 73 percent more fidgets, a remarkable percentage difference.

CLASS DISCUSSION

Students are often not aware of the difficulties associated with naturalistic or systematic observation. During the discussion following the demonstration, I ask them what could be done to improve data collection in observational studies.

People in the class typically identify the following problems with the present methodology specifically and with observational techniques broadly:

1. The concept of a "fidget," although intuitively clear, does not have a clear operational definition. Observations would be more reliable with a set definition.

1a. Even though an operational definition would help, such a construct constrains observations so that some actual fidgets would be missed, whereas some non-fidgets (intuitively defined) would be inappropriately recorded.

1b. Training people until they are consistent would raise the low inter-rater reliability.

1c. Creating a videotape of the scene to be recorded would allow observers to discuss their criteria so that all observers are recording in similar ways.

2. The method of recording data might differ across observers. For example, some students log a fidget with every occurrence, taking their eyes off the class, whereas other students tally the movements in their heads and only enter them onto the data sheet when the one-minute segment ends. Students in the latter group are less likely to miss movements while recording data.

3. The student-observers are sitting on different sides of the room, so their vantage points are not the same. As a result, they may not really be recording the same scene because of the possibility of partially blocked viewing conditions or differing perspectives.

4. Students in the class know they are being observed, even if they do not know the purpose. As a result, they may try to figure

out the purpose and change their behaviors either to be "helpful" or to resist "intrusive observation" of their behaviors. Depending on the student's conclusion, that individual's behavior may not resemble that of the person in the next seat.

CONCLUSION

This activity is well received by students and generates meaningful discussion. Afterwards, they are better able to set up recognize the pitfalls that arise during even simple observational techniques. When combined with their exposure to more controlled experimental or quasi-experimental approaches to research, they can appreciate the difficulties inherent in each approach.

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Goodwin, C. J. (1995). *Research in Psychology: Methods and Design*. New York: Wiley.

Graham, C. C., jr. (1973). A glossary for research reports. In E. Mendoza (ed.), *A Random Walk in Science*. New York: Crane, Russak & Co.

Levin, I. P., & Hinrichs, J. V. (1995). Experimental Psychology: *Contemporary Methods and Applications*. Dubuque, IA: Brown & Benchmark.

Table. 1 Directions to student volunteers

I would like you to record the number of fidgets that the students in the class emit for a five-minute period. Break the five-minute period into separate one-minute segments and keep a count of the number of fidgets in each segment. Keep a written record of the number of fidgets in each segment. You will need to scan the entire class, so sit at the front of the class, facing them.

When we go back into the classroom, take your observation seats and when I say "Begin," start recording the number of fidgets. For the first minute, I will be talking; for the second minute, I will explain that I want the students to sit with their eyes closed and imagine that there are insects crawling on their skins. During the third minute, they will actually sit there with their eyes closed. During the fourth minute, they will begin a discussion of what they think is going on. It will continue into the fifth minute.

Make sure that you keep track of the time as accurately as you can.

Table 2. Student activity and purpose for the one-minute period for the demonstration.

Min	Activity during the one-minute period	Purpose
1	I talk about a topic unrelated to systematic observation	This generates a baseline period for number of fidgets
2	I tell students that I want them to close their eyes and imagine that insects are crawling on their skin	This prepares them for the a period in which the number of fidgets is likely to increase
3	Students close their eyes and imagine the insects are there	After about half a minute, the number of fidgets typically begins to increase
4	We begin a discussion in which students speculate on the reason for the activity and the role that the student-observers played	This creates a warm-down minute in which fidgets begin to decrease in number
5	The discussion continues	This provides another post-insect baseline

Table 3. Typical results from four classes in which students counted fidgets.

Class	Observer	Min. 1	Min. 2	Min. 3	Min. 4	Min. 5	Total
1	A	63	45	48	99	29	284
	B	43	118	76	74	23	234
2	A	5	4	25	9	3	46
	B	14	8	27	14	9	72
3	A	22	14	12	15	*	63
	B	15	7	12	9	*	43
4	A	6	3	3	3	*	15
	B	20	47	24	27	*	118

* In some classes, I used only four observation minutes.